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Which "fairness", for whom, and why? An empirical analysis of plural notions of fairness in Fairtrade Carbon Projects, using Q methodology

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ABSTRACT

Fairness is a relative concept with multiple, subjective and competing notions of what it is, how to achieve it, and for which beneficiaries. Fairtrade International's collaborative efforts to develop a standard to certify Fairtrade Carbon Credits (FCCs) brought together multiple stakeholders in a deliberative context. This paper uses Q methodology to empirically assess the notions of fairness this wider consultation group held. Three distinct 'factors' (or perspectives) are identified, and discussed in relation to a multi-dimensional framework for exploring fairness. The first factor prioritises development delivered through organisations, participation in decision-making and use of minimum prices to adjust trade imbalances. The second factor conceptualises a non-exclusive approach maximising generation and sales of FCCs, involving a commodity chain where everyone performs their optimum function with financial transparency and information-sharing to facilitate negotiations. The third factor involves minimising intervention, allowing carbon commodity chains and project set-ups to function efficiently, and make their own adjustments to enhance benefits access and quality received by beneficiaries. The three factors reflect debates within carbon and fair trade spheres about who should be playing which roles, who should be accessing which benefits, and how people should be supported to interact on an uneven playing field. Communicating findings to standards organisations enables a more open and inclusive policy process. Our research provides a critical reflection on these plural notions of fairness, identifying areas of (dis)agreement within the FCC dialogue, and provides a wider, yet manageable, set of inputs for supporting the FCC process during its inception and subsequent implementation. Clearer definitions of "fairness" are also useful for standards organisations in reviewing *ex post* whether "fairness" goals have been met.

1. Introduction

Carbon markets have been heralded as an opportunity for financing low carbon development in the global south whilst mitigating climate change, but are simultaneously the object of major discussions about fairness (Howard et al., 2015). Concerns have been raised regarding the burdens, benefits and positioning of local communities involved in international carbon projects (Mathur et al., 2014, Melo et al., 2014) and the technical complexity of offset mechanisms, which create dependency on outside expertise for audit that can shape and determine the character of carbon market access (Corbera and Brown, 2010, Lansing, 2013). In 2011 the ethical standards body Fairtrade International committed to address fairness within the climate change arena with a new fair trade commodity named "Fairtrade Carbon Credits" (FCCs) (Mhene, 2012). A strategic collaboration with the Gold Standard Foundation[1] began in 2012 to develop a new joint certification scheme (Gold Standard Foundation and Fairtrade International, 2012) expected to redress rural communities' unequal access to, information about, and capacity to benefit from, the carbon market (Howard et al., 2015). The two organisations pooled their expertise and elicited inputs from multiple stakeholders familiar either with the carbon market or with Fairtrade to develop a Fairtrade Climate Standard for projects

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[1] Gold Standard is a non-profit foundation coordinating a certification standard for carbon offset projects which also contribute to sustainable development.

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that would engage and benefit smallholders and rural communities in the production of FCCs[2].

Fairtrade International is one of many Standard Setting Organisations (SSOs) addressing fairness, equity and justice in commodity markets through people-centred approaches aimed at poverty alleviation, participation and empowerment (Melo et al., 2014, Phillips, 2014). However, actual impacts are shaped by the priorities driving standards and the multiple contexts where they are applied (Mcdermott, 2013, Nelson and Martin, 2015). Operating both within and against the market, and deploying a technocratic logic of measurement, SSOs are in a place of inherent contradiction and have the potential to result in continued marginalisation of local communities, centralised control and reinforcing of dominant interests, despite efforts to avoid these outcomes (Melo et al., 2014). Fairtrade International is a membership-based organisation providing opportunities for its 1.5 million member farmers and workers and 19 National Fairtrade Organisations to influence major decisions via a number of channels. Nevertheless, its sheer size, stakeholder diversity, political and historical foundations and subsequent trajectory into mainstream markets and new commodities render it a heterogeneous, evolving movement characterised by a number of fault lines (see table A3 for a summary) and recent scissions between different cohorts who seek to represent, advocate, dilute or codify different notions of fairness in different ways (Bennett, 2012, Doherty et al., 2013, Raynolds and Greenfield, 2015, Renard and Loconto, 2013). Introduction of carbon credits into the Fairtrade[3] system triggers new debates about what is fair about fair trade and carbon credits, both within and outside of the movement.

This paper responds to calls to unpack the normative ideals, in particular fairness evoked by SSOs in the carbon market (Page, 2012) and used differently by different actors in depoliticised, technocratic, standardised and instrumental ways which threaten the achievement of fairer outcomes (Melo et al., 2014, Mcdermott et al., 2012). Without clear definitions, such concepts are open to co-opting or dilution by powerful actors (Leach et al., 2010). Attempts by SSOs to set 'rules' or standards on what constitutes 'fairness' necessarily involves legitimising some definitions over others and 'closing down' debates concerning its boundaries (Renard, 2005, Renard and Loconto, 2013). Nevertheless, as standards for fairness are set, it is important to critically assess what is understood by fairness in order to establish which types of fairness outcomes the standards are designed to achieve, for whom, how and why, and to enable the future evaluation of these outcomes (Mcdermott et al., 2013).

Following Schroeder and McDermott (2014), we view fairness as socially constructed. We use Q methodology ('Q') to empirically analyse how the term is differently understood and deployed by people contributing to the development of the Fairtrade Climate Standard. Q enables analysis of subjectivity in an open, yet structured and statistically interpretable form (Curry et al., 2013, Setiawan and Cuppen, 2013) and can be used to identify a range of voices, accounts and understandings (Barry and Proops, 1999). It 'opens up' inputs and reflexivity in policy-making processes (Leach et al., 2010, Ockwell, 2008), facilitating dialogue (Focht and Lawler, 2000) and enhancing policy implementation processes (Barry and Proops, 1999). We draw on an adapted version of McDermott et al's (2013) Multi-Dimensional Equity Framework to guide statement selection and interpretation of results.

2. Empirical analyses of fairness within the carbon market and Fairtrade

We refer to fairness as encompassing both justice and equity (Schroeder and Mcdermott, 2014) and reflecting the language of the people involved in the standard-setting process. When justice, equity and fairness are seen as socially constructed, characterising how they are framed and understood by different actors is more important than the choice of terms (Schroeder and Mcdermott, 2014). Empirical analyses of justice, equity and fairness differ from normative approaches (e.g. Rawls, 2009). Rather than starting from a theoretical position, and applying universal principles to particular contexts, they start from actual claims and the notions used to support these (Sikor et al., 2014). They acknowledge that multiple and competing notions co-exist that are experiential, context-dependent and vary according to the kinds of resources and responsibilities being shared (Sikor et al., 2014, Mcdermott et al., 2013). Sikor et al. (2014) identify two overlapping lines of enquiry in empirical analyses of justice (or fairness). The first involves identifying dominant notions, exploring their appropriateness in different contexts, and analysing their operation in practice. The second involves characterising different stakeholders' notions in particular contexts, examining their justifications within public discourse, and then identifying how different notions gain or lose ground. Together they enable a better understanding of the interplay between different notions, contexts and practice, and the tensions between multiple notions upheld maintained at different scales. While we address both lines of enquiry in ongoing work, this paper aligns more with the second one, by exploring notions upheld by stakeholders in the public deliberative contexts of standard-setting and providing a benchmark for assessing which ones eventually make it into the standard and why.

McDermott et al. (2013) developed a Multi-Dimensional Equity Framework as a tool (see Fig. A1) to guide systematic empirical analyses of equity, enabling examination, assessment and planning of impacts on equity brought about by changes in the value of ecosystem services. The framework is composed of three dimensions (contextual, procedural and distributional equity) that form the core content of equity (what counts as equity). The core is surrounded by three concentric layers of framing questions: (1) the scale and target of concern (who counts as a subject of equity), (2) the goals of an intervention with respect to equity (why equity) and (3) how decisions about each of these dimensions are taken (parameters of equity). It has been applied to explore fairness within Reduced Emissions from Deforestation and Degradation or 'REDD + ' debates and interventions across scales (e.g. Di Gregorio et al., 2013, Mulyani and Jepson, 2015) to consent procedures within mining and forestry (Mahanty and McDermott, 2013); public participation in European biodiversity governance (Paloniemi et al., 2015); gender equity within climate finance (Wong, 2014) and to certification schemes for sustainable commodities and carbon sequestration projects (Mcdermott, 2013, Pinto and Mcdermott, 2013). Some applications have drawn on the complete framework while others have used it in part. It has also been combined with complementary frameworks and additional concepts (e.g. Paloniemi et al., 2015, Visseren-Hamakers et al., 2012). Several applications miss out 'contextual equity', despite some finding that this dimension poses the biggest challenges (e.g. Ituarte-Lima et al., 2014). Its omission suggests it is not well understood or clearly distinguishable from the other core dimensions. Sikor et al. (2014) have proposed a similar framework

[2] This was designed as an add-on label to the Gold Standard certification, for projects which meet the social, environmental, trade and carbon accounting criteria of both organisations.

[3] Note that we use 'Fairtrade' to refer to the product certification system operated by Fairtrade International, including all or any part of the activities of FLO ev, FLO-CERT, Fairtrade producer networks, national Fairtrade organisations and Fairtrade marketing organisations. We use 'fair trade' to refer to the broader movement, including activities under the umbrella of Fairtrade International and activities led by organisations independent of its system.

Table 1
the content of fairness.

Our terminology	Our definition	Related concepts
Fair Access	Ways people can engage with and participate in the carbon market via carbon projects, taking into account power, wealth and resource distribution differences (Sikor et al., 2013, McDermott et al. (2013))	Contextual equity (McDermott et al.'s (2013)) Equity of access (see Corbera and Brown, 2010, Howard et al., 2015)
Fair Procedures	Ways people participate in project decision-making and/or implementation, as well as the rules and procedures themselves.	Procedural equity (McDermott et al.'s (2013)) Equity and legitimacy of decision-making and institutions (see Corbera and Brown, 2010, Howard et al., 2015)
Fair Benefit-Sharing	Ways people can benefit from project outcomes, in (non-)/monetary and (non-)/quantifiable terms.	Distributional equity (McDermott et al.'s (2013)) Fair distribution of benefits and equity of outcome (see Corbera and Brown, 2010, Howard et al., 2015).

which replaces the contextual dimension with the concept of 'recognition' (which McDermott et al. classify as part of procedural equity).

Our focus is on competing notions and discourses around fairness which shape the standard while it is under development and also impact on the future of fair trade itself (Renard and Loconto, 2013). We therefore used the questions from the framework to categorise and analyse these notions. We adapted the framework's wording (see Fig. A1 and Table 1) to reflect the language of Fairtrade International and Gold Standard Foundation, and the input of scholars who have theorised on fairness, justice and equity (see Howard et al., 2015). We refer to the framework's goals and target of fairness, and how the parameters of fairness are set. We deploy this latter dimension in a narrower sense in our selection of statements and analysis of results, looking only at how parameters for trading relationships and pricing are set. Our conception of the content of fairness is outlined in Table 1.

3. Methodology

We followed six methodological steps in our Q study.

3.1. Collation of the "Fair Carbon" concourse

A Q concourse is a body of literature which aims to represent the full range of ideas and opinions on the issue under study. Our concourse, defined as opinion on what "fairness" would mean in the (hypothetical[4]) context of an FCC project, was collated from materials collected or accessed during observations of the standards development process (September 2013–March 2014). Details of these materials are listed in the supplementary material.

3.2. Refinement of concourse into a "Q set"

Concourse materials were analysed inductively using Atlas.ti software. 119 coded[5] extracts were derived and used to generate an initial set of 58 statements, which were edited down (see supplementary material) to 40 statements expected to trigger both positive and negative reactions (following Webler et al., 2009). We conducted a pilot Q-sort with one person who was working for a carbon project advisory company but had conducted preliminary research for the Fairtrade Climate Standard and taken part in multiple stakeholder meetings. Using this feedback, we adjusted the set. Adjustment included rewording ambiguous, general or loaded statements, returning to the concourse and re-coding it for 'parameters of fairness' (the outer layer in the equity framework) and selecting statements referring specifically to pricing mechanisms. The final set contained 40 statements. We ensured the theoretical breadth by cross-checking the statements against six thematic categories, based on our adapted version of McDermott et al.'s (2013) equity framework, selecting at least five from each category, although some covered more than one category (Tables A1 and A2). Following Lansing (2013), we chose not to make these categories explicit to participants because we did not want to confine their reactions.

3.3. Purposive selection of participants

Q studies select participants based on a diversity of perspectives (Setiawan and Cuppen, 2013) rather than representativeness or quantity (Eden et al., 2005). In our case, most participants were purposively selected based on their views expressed during interventions in meetings, workshops and informal discussions as part of the standard-setting process[6]. Two additional participants from the fair trade system were encouraged to participate by their colleagues. Of 36 invited, 26 participated (see Table 2): 23 had been involved in at least one stakeholder meeting connected to the standard development; the remainder had received information about the process via colleagues who had been involved. We ensured participants had experience of Fairtrade (nine were licensees, certifiers, or staff at Fairtrade International or any of its member organisations) and/or experience of Gold Standard or carbon projects certified by other standards bodies (17 were involved in promoting, financing and/or implementing projects, or developing new Gold Standard Foundation standards). Seven had practical experience of carbon projects involving Fairtrade producers and fitted in both categories.

3.4. Q-sorts and accompanying interviews

During May-September 2014, 26 Q interviews were conducted: 20 were face-to-face, using printed cards and a distribution grid, and six were via *Skype*, using Q-sort software application *Flash Q* (Hackert and Braehler, 2007). Participants were encouraged to think out loud during their first reading and sorting of statements into 'agree, disagree and neutral'. This rich interview data helped us to understand how the statement was being interpreted and why, and highlighted statements or words that were ambiguous

[4] The standard was still under development and no projects had yet been certified.

[5] Five codes were theoretically inspired by our adapted version of McDermott et al.'s (2014) equity framework (fair access, fair benefit-sharing, fair procedures, the target of fairness and the goal of fairness), and three were developed inductively (generic fairness, issues of ownership of the credits and trade-offs involved in delivering fairness).

[6] Overall, this process involved several meetings and workshops led by Fairtrade International with stakeholders from fair trade producer organisations; fair trade marketing organisations; and NGOs, businesses and consultants involved in carbon project financing, development, implementation or retailing of credits.

Table 2
Participants and degree of correlation with each factor (F1, F2 and F3).

	Based	F1	F2	F3
Participants loading significantly on F1				
Staff of Fairtrade International	Europe	0.743[a]	0.193	−0.293
Staff of Fairtrade International	Europe	0.797[a]	-0.029	0.012
Carbon project financer and seller of credits	Europe	0.532[a]	-0.001	0.027
Staff of fair trade marketing organisation	Europe	0.618[a]	0.103	0.013
Carbon project advisor	Europe	0.548[a]	0.282	0.250
Staff of fair trade marketing organisation	Europe	0.643[a]	-0.031	0.163
Staff of fair trade marketing organisation	Europe	0.493[a]	-0.084	0.389
Carbon project technician/advisor	Europe	0.595[a]	0.126	0.131
Participants loading significantly on F2				
Carbon project implementing partner	Africa	0.027	0.660[a]	0.326
Fair trade licensee and carbon project implementer	Africa	−0.142	0.789[a]	0.064
Carbon project implementing partner	Africa	−0.115	0.562[a]	0.253
Carbon project advisor	Africa	0.219	0.519[a]	−0.034
Staff of fair trade producer network	Africa	0.103	0.599[a]	0.081
Carbon project implementer	Africa	0.258	0.648[a]	−0.263
Carbon project implementer	Africa	0.050	0.608[a]	0.265
Carbon project developer and advisor	Europe	0.371	0.514[a]	0.060
Carbon project implementer	Africa	0.267	0.427[a]	0.256
Participants loading significantly on F3				
Staff of research organisation	Africa	−0.064	0.179	0.645[a]
Low-carbon technology promoter	U.S.	0.045	0.289	0.668[a]
Carbon project owner	U.S.	0.019	0.116	0.491[a]
Carbon project advisor and implementer	Africa	0.090	−0.032	0.725[a]
Staff of certification body	Europe	0.363	0.108	0.577[a]
Confounders (loading significantly on more than one factor)				
Staff of Fairtrade International	Europe	0.583[a]	0.187	0.465[a]
Carbon project technician/advisor	Europe	−0.129	0.508[a]	0.472[a]
Staff of standards organisation	Europe	0.442[a]	0.004	0.644[a]
Non-loaders (loading significantly on none of the factors)				
Carbon project advisor and implementer	Africa	0.365	0.332	−0.031

[a] = significant sorts (±0.41 at the $p < 0.01$ level).

for some people. Next, participants ranked the statements, positioning them on a 9-columned forced normal distribution grid, indicating a spectrum ranging from most disagree to most agree (Fig. 1), helping to reveal participants' preferences (Brown et al., 2014, Webler et al., 2009). Participants were then asked open-ended questions about their positioning logic, helping us view each Q-sort from their perspective.

3.5. Correlation and factor analysis of Q-sorts

Q-Analysis identifies similar sorting patterns in the Q-sorts, meaning that participants share some distinct commonalities in their perceptions. Analysis of the 26 Q-sorts used PQ method software, version 2.35 (Schmolck, 2002). A 26 × 26 correlation matrix of the Q-sorts was produced and subjected to factor extraction using Principal Components Analysis (PCA) and Varimax rotation. PCA considers the specificity of individual sorts as well as the commonality between sorts (Webler et al., 2009)[7]. Rotation is applied to ensure each factor offers 'the best possible, or most meaningful vantage point from which to view the subject matter' (Watts and Stenner, 2012:142). Following Cairns et al, (2014), our aim was to find a factor solution which maximised the variance explained and number of loaders (participants significantly correlated with just one factor), while minimising the number of confounders (people loading significantly on more than one factor) and non-loaders (participants loading on no factor). We applied the principle that each factor should contain at least two sorts loading significantly on that factor alone (Watts and Stenner, 2012). We compared a number of outputs before selecting a three-factor solution. Together, the three factors explained 46% of the study variance. Anything above 35% is ordinarily considered a sound solution in factor analysis (Kline, 1994). 22 participants' Q-sorts loaded significantly on one of these factors, with three confounders and one non-loader. Weighted averages of the significant single loaders' sort patterns from each factor were used to create three 'factor arrays' or idealised Q-sort patterns, following the same format as the original distribution grid (Table A 2).

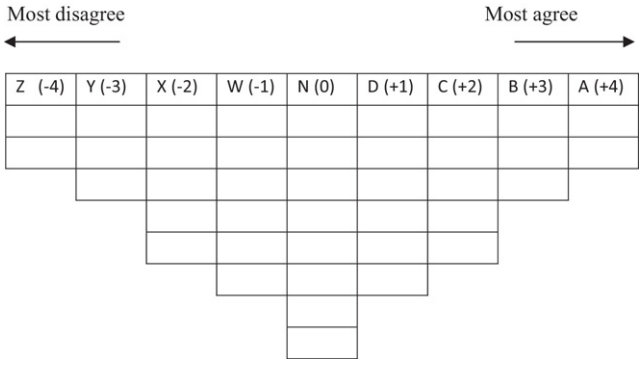

Fig. 1. The Q-sort grid. We distinguished columns using letters, but the equivalent numerals used in the Q data analysis software package (and used later in the presentation of the results) are given in brackets.

3.6. Qualitative results interpretation and development of "Fair Carbon" narratives

We wanted to understand the factor from the perspectives of the participants and create narratives which resonated with at

[7] Views differ within the Q community as to whether PCA or Centroid is most appropriate for factor extraction, but in our case we tried them both and eventually opted for PCA because several of the Centroid solutions contained empty factors with no significant loaders.

least the highest loaders in each factor. Factor interpretation followed Watts and Stenner's (2012) guidelines, which involves drafting crib sheets of statements and checking back over demographic and post-interview data to formulate hypotheses. We used the rich by-statement interview data to compare the views of each significant loader in the factor and summarise shared views. Our interpretative narratives paid particular attention to the interview data concerning the statements on the crib sheet. We chose not to draw on statements which had been understood quite differently by the various people in the factor, and invited the highest loaders to read over them and comment. To make explicit the links between the content of the narratives and the original themes, we organised them according to the headings in our adapted version of McDermott's (2013) equity framework. When categorising the statements, many spanned multiple categories, so we chose to combine the headings of 'goals' with 'target'; and 'access' with 'procedures' in order to avoid repetition.

4. Results

4.1. Factor 1 (F1): "Producer First" – Participation and Price-Floors

F1 explains 17% of the study variance and has eight significant loaders; five working within the Fairtrade system; three involved in project development with experience of working with fair trade producers in carbon projects.

4.1.1. Goals and Target of fairness

Production of FCCs should be in 'organised communities of disadvantaged people in the south' (statement 2, ranked +3). Production should not be limited to pre-existing organisations (30, −4), but well-functioning cooperatives should be targeted (14, +2). Large structures where individual members are 'not realistically engaged' and manufacturing companies that do not engage with organised communities should not be targeted (13, +2; 38, −3) and credits should not be produced in the industrialised north (4, −4). Buyers of FCCs must also commit to reducing their emissions (32, −3) as it would be unfair to ask poor people to reduce their emissions if high emitters are not committing to do the same (36, +1).

4.1.2. Access and procedures

Participation in an organisation and active involvement in a carbon project are essential fairness components. This does not mean that community-based or farmer organisations should manage everything from the carbon project development process (21, −2) to the sale of credits (25, −1). However, participating individuals and households must be able to input into decision-making and management (40, +4) and financial discussions (10, +3). Credits must transfer hands in order to be transacted, but the first owners should be the participating individuals and households in a project (11, +2) and the signing of an agreement with an aggregator is insufficient for the fair transfer of the credits away from those generating the emissions savings (15, −3).

4.1.3. Benefit-sharing

Focus should be on the organisation carrying out the project, who must receive a fair price. The rest of the supply chain is not a target of fairness (hence 19 and 20, both 0). Choices made about budgeting and revenue do not need to be judged through a 'fairness' lens (see statements 9, 16, 22 and 23 all in zero)- these should be left to the discretion project participants. Nevertheless, intervening to ensure payments are reaching women may be appropriate in some project contexts (39, +1).

4.1.4. Parameters of fairness

Minimum prices are important in setting parameters for fairer trade (27, +4), rather than prices being *driven* by market forces (28, +1). This does not mean being oblivious to market prices, but setting a floor price which would guarantee projects a carbon credit price that covers production costs and ensuring that there is willingness to pay.

4.2. Factor 2 (F2): functional value chain, maximum impact for people and planet

F2 explains 15% of the study variance and has nine significant loaders; eight involved in African carbon projects, as implementers, advisors or project partners; and two working with fair trade producers.

4.2.1. Goals and Target

Anyone willing to produce carbon credits should be allowed to, including those in heavily-emitting regions (4, +2). Entities should not be excluded on the basis of how organised they are at the outset (30, −4), their size (17, −3) or whether they engage with organised communities or not (13, −4). Projects which enable new organisations to emerge should be rewarded (7, +3), through encouragement and support. Well-functioning cooperatives should be targeted (14, +2), but so should non-organised groups as organisation may not be relevant or realistic. Although FCCs should aim to shift more of the benefits of carbon trade to disadvantaged people in the South, the initiative should not only target organised communities, and neither should it limit scope to the South (2, −1). It is unfair to ask poor people to reduce emissions if high emitters are not doing the same (36, +1) but requiring customers to reduce their emissions is unhelpful (32, +2) because it narrows demand and reduces opportunities for those who are willing to carry out mitigation activities which can benefit communities, households, and more broadly the environment.

4.2.2. Benefit-sharing

The most important element of fairness in FCC projects is financial governance and distribution within the value chain. Transparency of costs and margins is essential (19, +4) and can facilitate trust between parties, encourage efficiency and prevent one party from making windfalls. All parties can ensure that everyone is reasonably compensated (20, +4). Micro-level decisions about how the carbon revenue is paid and what it is used for, e.g. whether it is paid to women or men (39, −2), and whether it reaches particular members of the household (16, −2), are not important components of fairness.

4.2.3. Access and procedures

Communities involved in carbon projects do not have to sell credits by themselves (25, −3) as this is impractical and inefficient. Intermediaries have a role to play as long as they do not take an unfair proportion of the sales revenues, (5, +3), hence the people generating the carbon credits must be *involved* in the project development process (21, −2) so they can accept and appropriate it, and determine whether they are getting a fair deal. 'Taking on' the project development process should still allow for essential technical support, especially in a project's earlier phases. Some loaders suggested the onus is on Fairtrade International to make project procedures simple to facilitate people in taking on at least part of the project development process. Providing opportunities for individuals and households involved in a project to participate in management decisions and finance discussions will not be relevant (40, 0 and 10, +1) if they lack the capacity or willingness.

4.2.4. Parameters

Fairtrade minimum prices (a floor price) *may* have a role to play in fairer trade (27, +1) but market forces will naturally drive prices (28, −3) through supply, demand and negotiation between parties. A strong bond between credit suppliers and sellers is important (33, +2) but as one person noted, this should be a strong collaboration enabling benefit-sharing, rather than a binding chain.

4.3. Factor 3 (F3): market efficiency, minimum interference, more for the project

F3 explains 14% of the study variance and has five significant loaders from a mixture of professional backgrounds and locations.

4.3.1. Goals and target

Development must be a primary target of FCC projects, alongside emissions reductions (26, +4). They should not be a mechanism for paying communities for having low carbon footprints (3, −3) and insisting that poor people should only reduce their emissions if high emitters have made commitments to reduce theirs (36, −4) would deny them benefits of the carbon market (such as accessing low carbon technology, and channelling finance from developed countries to developing countries).

4.3.2. Benefit-sharing

Fmight be achieved by enabling access to low carbon technology and ensuring its maintenance (37, +1), provided this comes with an appropriate design, and training provision in usage. Technology should be sourced with users' interests and quality in mind: banning imported stoves is unhelpful and irrelevant (12, −4), as jobs are created in both stove production and distribution. Fairness in delivering benefits might mean making carbon payments specifically to women (39, +1), where payments are appropriate, and where women are doing the mitigation. Nevertheless, this is a project design issue, and should not be regulated by a Fairtrade standard. In land-based projects, direct payments to farmers for the costs they incur might be desirable (22, +1) but the money generated through a carbon project should directly impact the long term income of participating farmers or households (34, +3).

In an FCC value chain, each actor plays a distinct role. It is acceptable (and perhaps preferable) for private companies to be involved in projects and any criteria used to judge them (35, +3) should also be applied to NGOs and non-profits. Performance, not status is important. Every party should be reasonably compensated for what they deliver (20, +3), as per any functional business model. As one person loading on this factor emphasised, "we are talking about a market mechanism and if you cannot generate fair revenue for everybody in that process, you do not have a functional mechanism, or you're talking about development aid". It is difficult to evaluate what is 'reasonable' or which costs and margins are acceptable, even within the chain, but this should not be regulated by any third party (18, −3).

4.3.3. Access and procedures

People generating carbon credits should understand what they are involved in, but do not need to take on the carbon project development process (21, +2). This requires a specific skill-set and is best left to those who can do it most efficiently. Offering opportunities for individuals and households involved in projects to input into financial and management decisions (e.g. through consultations), is welcomed though not relevant (10 & 40, 0) if they lack the capacity or willingness to meaningfully participate. As credits must be transacted, ownership must be transferred away from the people generating the emissions saving to the end buyer, but agreements between parties must be clearly understood (15, +4).

4.3.4. Parameters

Market forces will undoubtedly drive prices (28, −2) and the application of minimum prices is not necessarily going to make trade fair (27, −2). As some suggested, perhaps other tools are more practical and would not risk pricing the credits out of the market.

5. Discussion

Reflexivity in policy appraisal provides space to consider the plurality of opinions, exposing the underlying values, interests and subjective assumptions to critical reflection (Ockwell, 2008). During the development of the Fairtrade Climate Standard, plural opinions were heard through the highly consultative process that new Fairtrade standards undergo (see Fairtrade International, 2011), although hearing them does not necessarily mean that they will be taken into account. Our Q study served as a novel opportunity to enhance reflexivity (welcomed by participants and staff responsible for the standard development) by facilitating a more systematic and in-depth reflection on the values, interests and assumptions underpinning their plural opinions, including the interrelationships between different dimensions of fairness and different ways of achieving it (particularly through instructions to think out loud, and the sorting process itself). Input for the Standard was principally from a group of carbon market actors who were initially unfamiliar with the Fairtrade system, its history, principal tools and approaches, and from Fairtrade staff and licensees lacking practical experience of the carbon market, so it could be expected that these departing differences in knowledge and experiences might produce a diverse and potentially irreconcilable set of inputs. The team developing the standard would be tasked to evaluate these inputs and discriminate between them in producing a standard which could be passed by the Fairtrade Standards Committee. Our study's contribution was to provide a synthesis of different views so that the team finalising the standard would be more aware of which ones they were choosing to include or exclude. Publication of the results also enhances the transparency of the standard-setting process itself by highlighting the array of opinions provided as inputs so that those who were not involved in the process can assess if and how these were used.

This section discusses points of difference and convergence between factors, linking them to the dimensions of the adapted multi-dimensional framework, and to wider debates, evidence and lessons learned within fair trade and the carbon market. Table A 3 summarises the links between these three areas. Notably, most people loading on F1 come from within the fair trade system or are familiar with it. This is reflected across a number of areas where the factor perspective resonates with key principles of fair trade (encoded for example in the Fairtrade Theory of Change, see Fairtrade International, 2013). However, some participants from within Fairtrade loaded more significantly on other factors, reflecting the internal debates within the fair trade movement. Our discussion also highlights some differences between existing fair trade commodity chains and the way things work in carbon projects, implying that some aspects of the Fairtrade approach may be under pressure to change as Fairtrade moves into carbon.

5.1. The goals and target of fairness

All factors agree that development and emissions reductions should both be primary goals of an FCC project, but differences emerge when exploring what is understood by 'development' and where priorities are placed. For F2 and F3, the goal is to maximise emissions reductions and carbon credit sales whilst having a positive development impact. For F2 this is achieved by removing

limitations to the production and marketing of credits in order to maximise the environmental impact. F3 envisages development at the level of the households and individuals participating in the project, through increased access to clean and usable technology, or positive impacts on household income. F1 prioritises development in the global south, achieved principally through participation in the project as organisational members: organisations being the target of support and benefits.

Disagreements on the target of fairness are clearest between F1 and F2 regarding the necessity of being organised, inclusion of projects in the north, and criteria for customers buying credits. Similar debates are articulated within fair trade, most visibly in the recent departure of Fair Trade USA from the Fairtrade International system. F2 fits more with Fair Trade USA's strategy of growing the market for fair trade products so that more producers will benefit (involving certifying farmers who are not democratically organised, plantations in sectors which Fairtrade International limits to small producers, and Northern producers). This has been widely condemned by Fairtrade International and other members of the movement because of the emphasis on market goals over movement principles (Raynolds and Greenfield, 2015).

Disagreements about the relevance of organisation between F1 and F2 loaders are a reminder that firmly rooted assumptions about 'organisation' need to be reality-tested by attending to the specificities of carbon credits (how they are produced and by whom) compared to existing fair trade commodities. Producer organisations form the roots of the fair trade movement, beginning with coffee cooperatives in Mexico (Smith and Vanderhoff, 2013) and these roots continue to shape organisational preferences 30 years on. Producer organisations feature strongly in Fairtrade International's Theory of Change (Fairtrade International, 2013), which articulates how fair trade interventions result in impacts. However, scholars have underlined the need to attend to the geographical and cultural specificity of different commodities and modes of organisation (Nelson and Martin, 2015, Mcewan et al., 2014). For example, African countries such as Ghana, Tanzania and Kenya had very different histories of cooperative formation compared to Latin America, leaving a legacy of very large cooperatives and cooperative unions initiated by colonial governments, many of which are struggling or facing particular challenges (Tallontire, 2015).

Disagreements about where carbon credits should be produced reflect ethical debates about neo-colonialism in carbon and fair trade arenas. Carbon debates are polarised by those who see carbon trading as northern customers dumping responsibility on the global south, and those who see it as an opportunity for people in the south to benefit from climate finance (Howard et al., 2015). Obliging customers to reduce their own emissions before buying credits (F1) is a strategy to respond to this critique even if it would mean limiting the size of the market (F2). Fair trade's emphasis on cash crops produced in the global south for northern markets proliferates colonial commodity circuits despite efforts to transform production relations (Raynolds and Greenfield, 2015), although the polarisation of producers and consumers is gradually changing with the development of fair trade markets in Africa (Keahey, 2015) and Latin America (Renard and Loconto, 2013).

5.2. The content of fairness

5.2.1. Fair benefit-sharing

The three factors diverge on where to measure fair benefit-sharing (at the household level (F3); within the organisation producing the credits (F1); and across the commodity chain (F2 and F3)). F1 echoes the fair trade approach which is relatively prescriptive on fair benefit-sharing but limits the scope to producer cooperatives and worker associations (Fairtrade International, 2013, Mcdermott, 2013). Fair trade impact studies normally assess household level changes too, but lack of attention in F1 to individual households may be because FCCs cannot be expected to generate the same level of direct household income as other fair trade commodities, as the carbon revenue is often absorbed further along the chain (Howard et al., 2015). Despite their bearing on available income, all factors agreed that intermediaries can be involved in an FCC commodity chain. However, while F1 advocates limiting them, F2 and F3 embrace them and advocate reasonable compensation. F1 maps onto the fair trade approach, which in the coffee sector has been focused on enabling primary producers to engage in 'direct' trade with shorter trading chains while F2 and F3 fit more with other sustainability standards such as by the Forest Stewardship Council which often include many intermediaries (Taylor, 2005). Nevertheless, the role of intermediaries has been legitimated within Fairtrade standards, in the Contract Production standard developed by Fairtrade International for particular geographical areas and products, and in the Independent Smallholder standard developed by Fair Trade USA although there is not yet enough evidence of the intermediary playing the intended role. Within carbon projects, Boyd (2009) suggests that NGOs can sometimes serve as intermediary institutions, bridging the disconnect between the values and rhetoric of local resource users, and the global institutions that set the rules, however, evidence on how this would occur in practice is again lacking (Lansing, 2013).

5.2.2. Fair access and procedures

All factors agreed that carbon project participants should be involved in design and implementation but recognised that households, farmers or community members may initially lack specific capacity or skills to engage effectively. However, while F1 aims to build capacities, F2 and F3 see limited capacity as reasons for continued involvement of additional parties. F2 recognises the need to shift power by enhancing project participants' negotiation capacities, whereas F3 does not advocate for changes in capabilities or power. Notably, the extent to which the shift in capabilities and power is possible depends greatly on context as well as motivations of actors involved. The risk with fair trade is that approaches focusing on political empowerment only empower those producers that already have more resources. Equally, without political empowerment, once dependencies become institutionalised, there may be few opportunities to develop socially and institutionally, and to challenge the trading terms and positioning in the value chain (Tallontire and Nelson, 2013).

Rationales for participation varied between the factors, from philosophical (F1) to pragmatic or even instrumental (F3), and from being a means to eventually take on more tasks (F1) or a tool for enhancing negotiation (F2), to a means of strengthening participants' commitment to emissions reductions (F3). These differences resonate with Melo et al.'s (2014) finding that different carbon projects certified by the Climate, Community and Biodiversity Standard deployed participation in different ways. While participation is commonly emphasised in standards and project design documents and is required for projects to achieve both mitigation and community benefits, interpretations are wide-ranging, and without clear definitions and prescriptions, the notion risks being used instrumentally (Melo et al., 2014). Also with respect to carbon projects based on Reduced Emissions from Deforestation and Degradation (REDD), Mcdermott et al. (2012) note that safeguards (including participation) intended to enhance equity are deployed in distinct ways by different actors with different interests. Nevertheless, Lansing (2013) observes that project designs are necessarily highly technical, require standardised procedures and often exclude different perspectives and collaborative project design and implementation is difficult.

5.3. Parameters of fairness

Different reactions to 'minimum prices' point to different understandings of what this mechanism might look like and what it could achieve when applied to carbon. Some positive reactions (F1) were based on experience of the benefits it brings when applied to agricultural commodities, and awareness of the complexity and rigour used to work out prices. Other ambivalent or negative reactions (F2 and F3) came from people who had limited experience of Fairtrade minimum prices or who were aware of the difficulties in challenging market forces or finding buyers willing to pay higher prices, following their experiences of carbon price slump in recent years. One said she was not in favour of minimum prices was because she was not from fair trade, where she perceived that minimum prices are 'in their DNA'. However, some participants from within fair trade were also unsure how the tool would work when applied to carbon. Minimum prices set Fairtrade standards apart from other sustainability standards and attempt to modify conventional trading relations (Taylor, 2005). However, this is harder to achieve in capital intensive, organisationally complex networks (Raynolds and Greenfield, 2015) and depends on actors in the supply chain and other contextual aspects inherent to the commodity and the industry (Nelson and Martin, 2015). Furthermore, corporate pressure can dilute key fair trade principles including minimum prices (Doherty et al., 2013). Carbon projects are not only capital intensive and organisationally complex but also constitute a specific context for applying minimum prices, and it is not obvious who would receive them. People in F3 emphasised that payments to individuals are not always appropriate, especially when attached to the use of an energy-saving appliance such as a cook-stove or solar light, and are better translated into subsidies or services. In this case, a minimum price would go to the entity implementing the project and as yet, these entities are primarily NGOs and foreign or national businesses. For F1, these actors are not the 'target' of fairness. Certain types of carbon projects such as afforestation/reforestation often involve complex financial flows where investors commit to forwarding payments to project participants several years ahead of the carbon credits being fungible (e.g. Fisher, 2012, Jindal et al., 2012). This requires agreements and risk management mechanisms specific to each project. While there may be valid reasons for not applying minimum prices to carbon credits, this would be very controversial within the fair trade movement and would set a precedent potentially shaping its whole trajectory. The backdrop of low carbon market prices suggests the need for tools to ensure that carbon projects can cover costs and hedge risks, but willingness to pay higher prices would also be necessary.

6. Conclusion

Definitions of fairness and how to achieve it are multiple and contested in the context of carbon markets and even within the fair trade movement. This paper has contributed to what Schlosberg calls a "plural yet unified theory and practice of justice" (2004:517), making sense of empirical notions of fairness by using a conceptual framework and linking findings to ongoing debates within the theory and practice of fair trade and fairness in carbon projects. It has also advanced the body of empirical knowledge on multiple notions of fairness in the context of environmental governance, by exposing the views which have contributed to the development of the Fairtrade Climate Standard for FCCs. Crucially, we have shown that there is no clear consensus between participants' notions, and that whichever version of fairness is eventually codified in the published standard cannot be assumed to represent the views of all who took part in shaping the standard. A next step for research is to use the factors as a benchmark for assessing which if any of them are visible in the eventual standard when it is published, as this is a key indicator of how notions gain or lose ground in public discourse and an important extension of this empirical line of enquiry we have begun to unravel (Sikor et al., 2014). Further research is also needed to explore the salience of these viewpoints amongst stakeholders who did not take part in the Q study but whose views could be equally influential on the legitimacy, success or failure of the eventual standard. These include representatives of civil society organisations and NGOs who have taken strong ethical positions on the carbon market, existing Fairtrade market actors, and member organisations of Fairtrade International who chose not to provide input for the standard or who could not take part in the study for reasons including that it was not conducted in an appropriate language.

Our approach served to open up discussion and provide clarity on some of the key fault lines in both debates (see A3). Fairtrade International's efforts to develop the Fairtrade Climate Standard with the support of external stakeholders illustrates that some of the pre-existing internal contestations within the fair trade movement have been mirrored in disagreements between people both from within and outside the movement concerning the new fair trade commodity of carbon credits. This suggests both that the development of the FCC standard is an opportune moment for taking these debates seriously, and also that the choices made are likely to shape the future of Fairtrade (Renard and Loconto, 2013), either by creating precedents or by furthering the status quo. Amongst the participants of the Q study, disagreements persisted within each layer of our adapted multi-dimensional framework. Regarding fair access and procedures, it is unclear how much carbon project participants can and should be expected or supported to take on more project tasks. The fairness of benefit-sharing is subject to disagreements about whether benefits should be targeted and monitored at the household level, within a producer-led organisation carrying out the project, or across the entire value chain. The goal and target of fairness in the context of a Fairtrade Carbon Credits project is simultaneously understood to be about mitigation impact, technology dissemination and development in the global south, but it is unclear how these should be weighted and which should be prioritised. With respect to parameter-setting, participants disagree on whether the fair trade approach of minimum prices is applicable and whether they will make the trade of carbon credits fair.

It is important to be aware of the views and assumptions behind the experts and/or lobbyists who influence policy and standards, and social scientists have a role to play in analysing policy-change in a way that fosters stakeholder engagement, learning and feedback loops (Visseren-Hamakers et al., 2012), this research being an example of that. A potential extension of our methodological approach and results within the standards making context could involve creating a deliberative forum bringing together people from each of the factors to debate on these unresolved issues in a discursively representative setting (see e.g. Cuppen et al., 2010, Dryzek and Niemeyer, 2008). While it cannot be expected, nor would it be necessary, that there is consensus on the content, goals, targets and how the parameters of fairness are set, it remains important to acknowledge these differences, to identify whose priorities and definitions are included or excluded in standards and projects aiming to enhance fairness, and to find ways of rebalancing this if it does not fit with the original intentions or has unintended consequences. We echo McDermott et al.'s (2013) concern that if the process of defining equity or fairness (the final layer of the framework) is given insufficient attention it is likely to remain a reflection of prevailing discourses

and power relations. Consequently, standards and projects will be limited in their scope to transform unfair situations and impact the beneficiaries who should have most to gain from the development of such initiatives. Meanwhile, the potential of a Fairtrade Climate Standard to trigger positive outcomes for those involved in producing FCCs is contingent on consumers' willingness to pay for them, and this still remains unknown.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.envsci.2015.11.009.

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